

Supplemental Table 1: Intensity-weighted lifetime-days of use of specific pesticides and ESRD risk, adjusted for age and state, among male pesticide applicators in the Agricultural Health Study (1993-1997), excluding: cases diagnosed within 5 years after enrollment and 5 years of post-enrollment person-time for non-cases

Pesticides	Intensity-weighted lifetime-days	Non-cases (N= 53,928)	ESRD Cases (N=268)	HR (95% CI)	p-value			
		N (%)	N (%)					
FUMIGANTS								
Methyl Bromide	< 558	3337 (6.4)	18 (7.2)	0.73 (0.44, 1.2)				
	≥558 to <1898.75	2173 (4.2)	16 (6.4)	0.87 (0.51, 1.48)				
	≥1898.75	1946 (3.8)	16 (6.4)	0.92 (0.54, 1.56)				
					0.8469			
FUNGICIDES								
Chlorothalonil *	<588	1305 (2.5)	13 (5.2)	1.75 (0.99, 3.08)				
	588-3254	1446 (2.8)	13 (5.2)	1.51 (0.85, 2.67)				
	≥3255	1292 (2.5)	10 (4)	1.29 (0.67, 2.46)				
					0.3986			
Metalaxyl *	< 310	1336 (5.9)	10 (9.4)	1.78 (0.91, 3.48)				
	≥310 to <1764	1489 (6.5)	10 (9.4)	1.66 (0.81, 3.38)				
	≥1764	1262 (5.5)	12 (11.3)	2.42 (1.21, 4.82)				
					0.0204			
HERBICIDES								
Phenoxy herbicides		Phenoxy herbicides						
2,4-D *	< 1756.7	15529 (30.2)	61 (24.4)	0.81 (0.57, 1.14)				
	≥1756.7 to <6770.25	12782 (24.9)	56 (22.4)	0.89 (0.62, 1.27)				
	≥6770.25	10290 (20)	59 (23.6)	1.02 (0.72, 1.46)				
					0.4394			
2,4,5,T *	<780	2363 (10.3)	9 (8.4)	0.52 (0.26, 1.04)				
	≥ 780	1715 (7.5)	11 (10.3)	0.82 (0.44, 1.55)				
					0.5749			
Triazine herbicides		Triazine herbicides						
Atrazine	< 1306.7	13205 (25.5)	60 (23.5)	1.12 (0.8, 1.57)				
	≥1306.7 to <6961.5	14205 (27.5)	57 (22.4)	0.94 (0.66, 1.33)				
	≥6961.5	8433 (16.3)	54 (21.2)	1.32 (0.93, 1.87)				

					0.1344
Cyanazine	< 784	7691 (15.9)	25 (11.5)	0.89 (0.57, 1.4)	
	≥784 to <3110.3	6765 (14)	23 (10.6)	0.9 (0.56, 1.43)	
	≥3110.3	5647 (11.7)	22 (10.1)	1.16 (0.73, 1.86)	
Metribuzin *	< 472.5	3586 (15.7)	12 (11.1)	0.89 (0.47, 1.69)	0.4804
	≥472.5 to <1344	2397 (10.5)	14 (13)	1.61 (0.89, 2.91)	
	≥1344	2545 (11.1)	13 (12)	1.47 (0.8, 2.7)	
					0.1375
Dinitroaniline herbicides					
Pendimethalin *	< 793.3	4227 (18.4)	12 (11.2)	0.7 (0.38, 1.3)	
	≥793.3 to <3307.5	2873 (12.5)	14 (13.1)	1.35 (0.76, 2.41)	
	≥3307.5	1651 (7.2)	11 (10.3)	1.98 (1.04, 3.78)	
Trifluralin	< 1128.75	8790 (18.2)	34 (16)	0.98 (0.66, 1.45)	0.0214
	≥1128.75 to <3596	7517 (15.6)	31 (14.6)	1.12 (0.74, 1.68)	
	≥3596	8958 (18.6)	32 (15.1)	0.96 (0.64, 1.45)	
					0.8937
Chloroacetanilide herbicides					
Metolachlor	<1006	9033 (18.7)	35 (15.8)	1.08 (0.74, 1.59)	
	1006-3827	7379 (15.3)	28 (12.6)	1.12 (0.74, 1.7)	
	≥ 3828	6001 (12.4)	32 (14.4)	1.49 (1.01, 2.2)	
Alachlor	< 1053.5	9759 (20.3)	42 (18.9)	1.1 (0.76, 1.59)	0.0486
	≥1053.5 to <5568	9389 (19.5)	42 (18.9)	1.1 (0.77, 1.58)	
	≥5568	5887 (12.3)	37 (16.7)	1.4 (0.96, 2.04)	
					0.0915
all other herbicides					
Dicamba	< 490	7033 (14.7)	31 (14)	1.22 (0.8, 1.87)	
	≥490 to <2766.75	10048 (21)	28 (12.7)	0.8 (0.51, 1.24)	
	≥2766.75	7165 (14.9)	25 (11.3)	1.06 (0.67, 1.67)	

					0.9559
Chlorimuron-ethyl *	< 385	3462 (15.1)	11 (10.1)	0.92 (0.48, 1.74)	
	≥385 to <918.75	1530 (6.7)	10 (9.2)	1.8 (0.93, 3.49)	
	≥918.75	2457 (10.7)	13 (11.9)	1.45 (0.8, 2.62)	
EPTC	< 638	4467 (9.3)	11 (5.1)	0.78 (0.42, 1.45)	0.1509
	≥638 to <2088	2711 (5.7)	11 (5.1)	1.32 (0.71, 2.45)	
	≥2088	2666 (5.6)	9 (4.2)	1.14 (0.58, 2.23)	
Paraquat *	< 708.75	1999 (8.7)	7 (6.4)	0.79 (0.36, 1.73)	0.5962
	≥708.75 to <2334.5	896 (3.9)	10 (9.1)	2.53 (1.27, 5.03)	
	≥2334.5	942 (4.1)	10 (9.1)	2.38 (1.18, 4.77)	
Petroleum Oil *	<784	1917 (8.4)	8 (7.3)	1.09 (0.53, 2.26)	0.0087
	784-2024	986 (4.3)	11 (10.1)	3.5 (1.86, 6.6)	
	≥ 2025	1932 (8.5)	11 (10.1)	1.54 (0.82, 2.89)	
Imazethapyr	6748 (13.8)	6647 (13.9)	22 (10)	1.15 (0.71, 1.87)	0.1278
	5034 (10.3)	4956 (10.3)	27 (12.3)	2.04 (1.29, 3.23)	
	9178 (18.7)	9073 (18.9)	22 (10)	1 (0.61, 1.63)	
Glyphosate	< 609	11976 (23.1)	61 (24.1)	0.93 (0.66, 1.31)	0.9253
	≥609 to <2821	14935 (28.9)	60 (23.7)	0.68 (0.48, 0.97)	
	≥2821	12203 (23.6)	62 (24.5)	0.88 (0.62, 1.25)	
Butylate *	<918.75	2936 (12.8)	9 (8.4)	0.68 (0.34, 1.37)	0.865
	≥918.75	3077 (13.4)	13 (12.1)	1.02 (0.56, 1.84)	
					0.9357
INSECTICIDES					
Organochlorines					
Aldrin *	Organochlorines				
	< 326.7	1253 (5.5)	10 (9.8)	1.21 (0.61, 2.4)	
	≥326.7 to <1019.2	1161 (5.1)	9 (8.8)	1.13 (0.55, 2.3)	

	≥ 1019.2	1194 (5.2)	10 (9.8)	1.16 (0.59, 2.3)	
					0.6787
Chlordane *	< 560	2519 (11)	10 (9.3)	0.63 (0.33, 1.23)	
	≥ 560 to <1260	812 (3.6)	11 (10.3)	1.88 (0.99, 3.56)	
	≥ 1260	800 (3.5)	10 (9.3)	1.72 (0.89, 3.35)	
					0.042
DDT *	< 437.5	1822 (8)	11 (10.4)	0.66 (0.34, 1.25)	
	≥ 437.5 to <2327.5	1628 (7.1)	14 (13.2)	0.85 (0.47, 1.54)	
	≥ 2327.5	1269 (5.6)	14 (13.2)	1.11 (0.61, 2)	
					0.5671
Heptachlor *	<440	1249 (5.4)	8 (7.5)	1 (0.47, 2.11)	
	≥ 440	1350 (5.9)	12 (11.3)	1.31 (0.7, 2.46)	
					0.3933
Toxaphene *	<1006	1508 (6.6)	8 (7.6)	0.82 (0.4, 1.69)	
	≥ 1006	939 (4.1)	7 (6.7)	0.93 (0.42, 2.04)	
					0.8395
Organophosphates					
Terbufos	< 840	7045 (14.6)	25 (11.6)	1.03 (0.66, 1.61)	
	≥ 840 to <2182.25	4356 (9)	23 (10.6)	1.45 (0.93, 2.28)	
	≥ 2182.25	6659 (13.8)	27 (12.5)	1.09 (0.72, 1.66)	
					0.5841
Fonofos	< 672	4053 (8.4)	8 (3.7)	0.52 (0.25, 1.07)	
	≥ 672 to <1837.5	2722 (5.6)	6 (2.8)	0.57 (0.25, 1.3)	
	≥ 1837.5	3308 (6.8)	9 (4.2)	0.59 (0.29, 1.2)	
					0.1155
Chlorpyrifos	< 437.5	5856 (13.1)	22 (9.9)	0.76 (0.49, 1.19)	
	≥ 437.5 to <2262	7780 (17.4)	25 (11.3)	0.65 (0.43, 1)	
	≥ 2262	5696 (12.8)	26 (11.7)	0.93 (0.61, 1.41)	
					0.7539
Malathion *	< 644	6461 (28.4)	23 (21.7)	0.9 (0.53, 1.53)	
	≥ 644 to <1792	3553 (15.6)	24 (22.6)	1.5 (0.89, 2.53)	

	≥ 1792	4211 (18.5)	24 (22.6)	1.1 (0.65, 1.86)	
					0.6859
Parathion *	< 1392	995 (4.4)	8 (7.7)	1.37 (0.66, 2.86)	
	≥ 1392	660 (2.9)	6 (5.8)	1.53 (0.66, 3.57)	
Diazinon *	< 1260	3109 (13.6)	10 (9.4)	0.61 (0.32, 1.19)	
	≥ 1260	1653 (7.2)	12 (11.3)	1.22 (0.65, 2.28)	
Phorate *	< 437.5	2592 (11.3)	11 (10.9)	0.88 (0.45, 1.7)	
	≥ 437.5 to < 2688	2721 (11.9)	5 (5)	0.37 (0.15, 0.93)	
	≥ 2688	1188 (5.2)	10 (9.9)	1.69 (0.87, 3.29)	
Coumaphos	< 957	2058 (4.3)	12 (5.6)	1.32 (0.74, 2.37)	
	≥ 957	1618 (3.4)	13 (6.1)	1.81 (1.03, 3.17)	
					0.0345
Dichlorvos	< 3136	2938 (6.1)	9 (4.3)	0.84 (0.43, 1.65)	
	≥ 3136	1655 (3.4)	10 (4.8)	1.7 (0.89, 3.23)	
					0.1051
Pyrethroids					
Permethrin for crops	< 420	2885 (6)	8 (3.7)	0.84 (0.42, 1.72)	
	≥ 420 to < 4002	2809 (5.9)	10 (4.7)	0.95 (0.5, 1.8)	
	≥ 4002	1138 (2.4)	10 (4.7)	2.1 (1.1, 3.98)	
Permethrin for animals	< 630	2660 (5.5)	8 (3.7)	1.15 (0.56, 2.35)	
	≥ 630	3209 (6.6)	11 (5.1)	1.31 (0.71, 2.42)	
					0.383
Carbamates					
Carbofuran	< 696	5630 (11.7)	17 (8)	0.62 (0.38, 1.03)	
	696-2299	3674 (7.7)	16 (7.5)	0.79 (0.47, 1.33)	
	≥ 2300	3123 (6.5)	20 (9.4)	1.12 (0.7, 1.79)	
Carbaryl *	< 1006.3	4930 (21.6)	16 (15.2)	0.58 (0.34, 1.02)	
					0.614

	≥ 100 6.3 to <7280	3129 (13.7)	14 (13.3)	0.64 (0.34, 1.2)	
	≥ 7280	1500 (6.6)	15 (14.3)	1.13 (0.59, 2.18)	
					0.278
Aldicarb *	<1176	814 (3.5)	7 (6.5)	1.9 (0.85, 4.24)	
	≥ 1176	877 (3.8)	6 (5.6)	1.68 (0.71, 3.99)	
					0.2459

*Indicates pesticides with duration and frequency information only available on the take-home questionnaire: N (non-cases) = 23,812 and N (cases) = 114.